Trip Report
2002 Annual Inspection of the
Salt Lake City, Utah,
UMTRCA Title I Processing Site

Summary

The Salt Lake City Processing Site, inspected on December 21, 2002, is in good condition. Inspectors inquired about a solid waste transfer station constructed by Salt Lake County on the southeast portion of the site, where thorium-230-contaminated soils may have been left in place. The footprint of the facility was remediated before the transfer station was constructed. Inspectors did not observe evidence of ground water extraction or other construction that would encounter contaminated soils. Surface water and ground water samples and water level data were collected in conjunction with the inspection. Inspectors saw no cause for maintenance or follow-up inspection.

1.0 Introduction

This report presents the results of the annual U.S. Department of Energy (DOE) inspection and sampling of the Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Processing Site at Salt Lake City, Utah. (In some documents, this site is also referred to as the Vitro Mill site.)

M. Widdop (Chief Inspector) and J. Price (Assistant Inspector), both of S.M. Stoller Corporation, the Technical Assistance Contractor at the DOE Grand Junction Office (GJO) conducted the inspection on December 21, 2002. J. Gilmore of DOE-GJO participated in the inspection. R. Herbert of the Utah Department of Environmental Quality also was present and collected duplicate samples. The inspection was conducted in accordance with the *Long-Term Management Plan* [LTMP] *for the Salt Lake City, Utah, UMTRA Project Processing Site* (GJO-2002-307-TAR, January 2002).

The purposes of the annual inspection were to confirm compliance with the *Ground Water Compliance Action Plan for the Salt Lake City, Utah, UMTRA Project Site* (Document Number U0039502, May, 2000), to confirm the integrity of visible features at the site, to identify changes in conditions that may affect site protectiveness, and to determine the need, if any, for maintenance or additional inspections and monitoring.

1.1 Final Site Conditions

Soils contaminated with residual radioactive materials were left in place at several locations on the original property, as shown on the figure in the Notice of Residual Radioactive Contamination appended to the LTMP.

The former processing site has been redeveloped as a regional wastewater treatment facility and golf course. A portion of the original site is used as a solid waste transfer facility by Salt Lake County.

A shallow unconfined aquifer is contaminated with molybdenum and uranium as a result of historic processing operations. However, the ground water is not useable throughout the region because of widespread arsenic contamination. Useable ground water exists in a deeper, confined aquifer. An upward hydraulic gradient within the lower aquifer prevents degradation by the overlying contaminated water. DOE applied supplemental standards to the contaminated ground water and will conduct monitoring to ensure the lower aquifer remains protected by its hydraulic head.

Ground water is expressed in four shallow ponds constructed on the golf course. DOE has observed elevated uranium in pond water. The pond water is used only for irrigation. A health risk assessment (LTMP, Appendix E) indicates that no unacceptable risk results from elevated uranium in the pond water.

1.2 Facility Access

Long-Term Surveillance and Maintenance (LTSM) Program personnel must check in at the Administration Building of the Central Valley Water Reclamation Facility before accessing the site and some of the sampling locations. Access to portions of the Central Valley Water Reclamation Facility is restricted by security fences and locked gates. After-hours access to the golf course also is restricted. Access to the solid waste transfer station is unrestricted but personnel should check in with facility staff before entering the facility.

1.3 Signs, Site Markers, and Survey Monuments

The LTSM Program does not maintain signs, markers, or survey monuments at the Salt Lake City Processing Site.

1.4 Monitor Wells

Four DOE-owned ground-water monitor wells remain at the Salt Lake City Processing Site. The wells are located in pairs. In each pair, one well is completed in the shallow unconfined aquifer and the other is completed in the deeper confined aquifer. Two flush-mounted wells are located in a grass-covered area south of the Administration Building and two wells are located downgradient of the first pair and in the northwest corner of the site. All wells were secure and in good condition.

2.0 Results of Inspection

2.1 Site Protectiveness

Inspectors spoke with the manager of the Central Valley Water Reclamation Facility, Reed Fisher. Mr. Fisher was aware of the location of the contaminated soils and indicated that no

excavation had occurred on the Central Valley Water Reclamation Facility property that might encounter the contamination. Inspectors spoke with a representative of the solid waste transfer facility, who indicated that, in conjunction with facility construction, radioactive-contaminated soils were removed from the footprint of the improvements and the main building was constructed over a three-foot-thick layer of clay. Inspectors saw no evidence of disturbance along the 3300 South Street right-of-way where soil contaminated with radium-226 was left in place or in any other location with contaminated soil.

LTSM Program staff should ensure that the public works agency is aware of the contamination remaining along the right-of-way. Program staff also should acquire radiological verification records for construction of the solid waste transfer facility, ensure that all property owners are aware of the Notice of Residual Radioactive Material, and that appropriate institutional controls are in place to prevent exposure to or dispersal of remaining residual radioactive materials.

2.2 Ground Water Monitoring

Inspectors collected ground water samples from the two shallow wells. Inspectors also downloaded dataloggers in the shallow wells and measured the water levels in the deep wells. In each well pair, the water level was higher in the deep wells than in the shallow wells. This demonstrates the upward hydraulic gradient that prevents contaminated ground water from flowing down into the deeper aquifer.

2.3 Surface Water Monitoring

Inspectors collected seven surface samples, representing surface water conditions in the ponds; in the discharge of a sump pump where 3300 South Street passes beneath railroad tracks southeast of the site; and in Mill Creek downstream of the outfall where Central Valley Water Reclamation Facility discharges treated water from their plant. This discharge stream sometimes includes water that is pumped from the shallow aquifer and treated.

3.0 Recommendation

1. Residual radioactive material remains along the 3300 South Street right-of-way and in local occurrences on the former mill site. Unless effective institutional controls are maintained, these materials may be exposed and dispersed (see page 3).

   Recommendation: LTSM Program staff should ensure that the public works agency is aware of the contamination remaining along the right-of-way. Program staff also should acquire radiological verification records for construction of the solid waste transfer facility and ensure that owners are aware of the Notice of Residual Radioactive Material.

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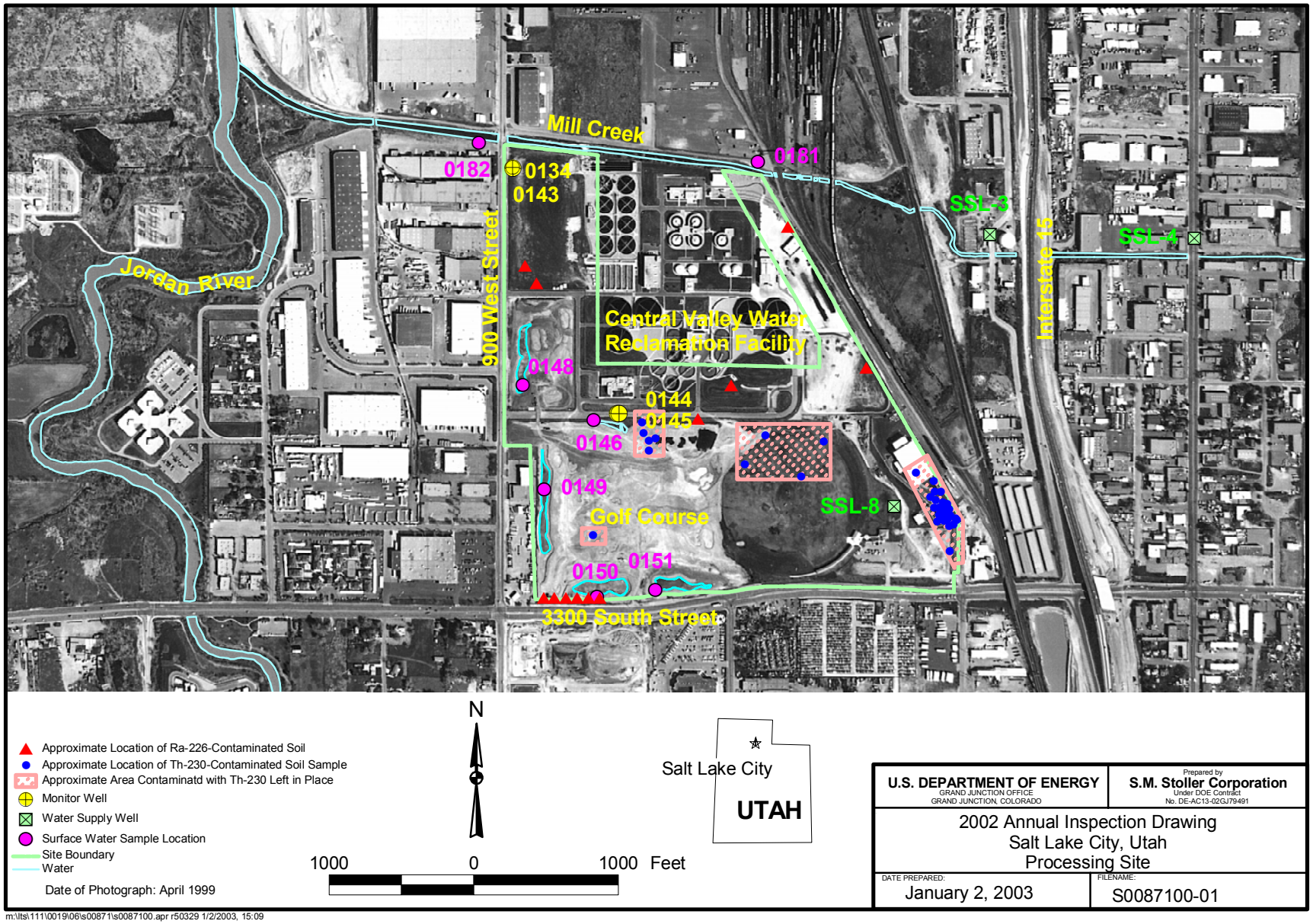

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